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Translated: 08:15:33 JST 11/04/2008

Dictionary: Last updated 10/08/2008 / Priority: 1. Information communication technology (ICT) / 2. Electronic engineering

[Document Name] Request for a Patent

[Serial Number] 8EA95Z0041

[Filing Date] Heisei December 27, 7

[Recipient] Commissioner of the Patent Office

[International Patent Classification] G06F 12/00

[Title of the Invention] Recording equipment

[The number of claims] 13

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[A display of a commission]

[The payment method] Prepayment

[A prepayment ledger number] 013387  
[A money paid frame] 21,000 yen  
[The table of contents of a paper affair]  
[An object name] Description 1  
[An object name] Drawings 1  
[An object name] Abstract 1  
[A blanket letter-of-attorney number] 9006453  
[A blanket letter-of-attorney number] 9102799  
[Necessity of a proof] Important point

[Document Name] Description

[Title of the Invention] Recording equipment

[Claim(s)]

[Claim 1] The semiconductor memory as a record medium, and the storage read-out circuit for memorizing the signal inputted to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] Recording equipment with which a cross section has long form in that side face direction by a rectangle, a pen clip is formed in that 1 side, and said microphone is characterized by being prepared in the side in which this pen clip was formed, and at least 1 of two sides contiguous to that side.

[Claim 2] The semiconductor memory as a record medium, and the storage read-out circuit for memorizing the signal inputted to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out

circuit [ said main part of recording equipment ] A cross section has long form in the side face direction by a rectangle, and a pen clip is formed in the 1 side. Recording equipment characterized by forming said microphone in the side in which this pen clip was formed, and at least 1 of two sides contiguous to that side, and forming said recording switch in the end of the main part of recording equipment of the direction of a root of said pen clip further.

[Claim 3] The semiconductor memory as a record medium, and the storage read-out circuit for memorizing the signal inputted to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] A cross section has long form in the side face direction by a rectangle, and a pen clip is formed in the 1 side. Said microphone is formed in the side in which this pen clip was formed, and at least 1 of two sides contiguous to that side. Furthermore, recording equipment characterized by forming said control switch in the sides other than the side in which said microphone was formed, and forming said recording switch in the end of the main part of recording equipment of the direction of a root of said pen clip further.

[Claim 4] The semiconductor memory as a record medium, and the storage read-out circuit for memorizing the signal inputted to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] Recording equipment characterized by being arranged so that the front of a pocket may be turned to, when it has long pillar form in a side face direction, and the pen clip was formed in the side, and said microphone accommodates said main part of recording equipment in a pocket and is fixed with a pen clip.

[Claim 5] The semiconductor memory as a record medium, and the storage read-out circuit for memorizing the signal inputted to this semiconductor memory, and reading the

memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] Recording equipment characterized by being arranged so that it may come out of a pocket, when it has long pillar form in a side face direction, and the pen clip was formed in the side, and said microphone accommodates said main part of recording equipment in a pocket and is fixed with a pen clip.

[Claim 6] The semiconductor memory as a record medium, and the storage read-out circuit for memorizing the signal inputted to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] Recording equipment characterized by being arranged in the position it turns [ position ] to the front of a pocket in the portion which comes out of a pocket when it has long pillar form in a side face direction, and the pen clip was formed in the side, and said microphone accommodates said main part of recording equipment in a pocket and is fixed with a pen clip.

[Claim 7] The semiconductor memory as a record medium, and the storage read-out circuit for memorizing the signal inputted to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] Recording equipment characterized by having long pillar form in a side face direction, forming a pen clip in the side, and forming said recording switch in the end face of the main part of recording equipment of the direction of a root of said pen clip.

[Claim 8] The semiconductor memory as a record medium, and the storage read-out circuit for memorizing the signal inputted to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] Recording equipment characterized by having long pillar form in a side face direction, forming a pen clip in the side, and being prepared so that it may come outside, when said recording switch accommodates said main part of recording equipment in a pocket by the end face of the main part of recording equipment of the direction of a root of said pen clip and is fixed with a pen clip.

[Claim 9] The semiconductor memory as a record medium, and the storage read-out circuit for memorizing the signal inputted to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] Recording equipment characterized by being arranged in the position it does not turn [ position ] to the front of a pocket when it has long pillar form in a side face direction, and the pen clip was formed in the side, and said control switch accommodates said main part of recording equipment in a pocket and is fixed with a pen clip.

[Claim 10] The semiconductor memory as a record medium, and the storage read-out circuit for memorizing the signal inputted to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and

making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] Have long pillar form in a side face direction, and a pen clip is formed in the side. Recording equipment characterized by being arranged in the position it does not turn [ position ] to the front of a pocket when said recording switch was formed in the end face of the main part of recording equipment of the direction of a root of said pen clip, and said control switch accommodates said main part of recording equipment in a pocket and is fixed with a pen clip.

[Claim 11] The semiconductor memory as a record medium, and the storage read-out circuit for memorizing the signal inputted to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] Have long pillar form in a side face direction, and a pen clip is formed in the side. When said main part of recording equipment is accommodated in a pocket and it fixes with a pen clip Recording equipment characterized by being arranged in the position said microphone turns [ position ] to the front of a pocket in the portion which comes out of a pocket, being arranged in the position said control switch does not turn [ position ] to the front of a pocket, and forming said recording switch in the end face of the main part of recording equipment of the direction of a root of said pen clip.

[Claim 12] Said recording switch is recording equipment of any one description of Claim 2 characterized by consisting of slide switches which have an operation knob, and being constituted so that the ON of a switch and OFF can be checked in the position of the operation knob, 3, 7, 8 and 10, and the 11th clause.

[Claim 13] Said recording switch consists of slide switches which have an operation knob. The operation knob is recording equipment of any one description of Claim 2 characterized by being constituted so that it may have the flange from which a color differs on slide direction both sides and the flange can check from the outside alternatively according to the change state of a switch, 3, 7, 8 and 10, and the 11th clause.

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to recording equipment using semiconductor memory like a flash memory as a record medium.

[0002]

[Description of the Prior Art] In order to carry out [ voice ] record reproduction conventionally, magnetic recorder and reproducing devices, such as a tape recorder using the magnetic tape as a record medium, are used.

[0003] The solid-state record reproduction equipment which used semiconductor memory, for example like a flash memory other than the record reproduction equipment using such a magnetic tape as a recording medium is developed.

[0004] With the solid-state record reproduction equipment which uses semiconductor memory for such a record medium, the control switch for performing a built-in microphone, recording, playback, a halt, etc. is arranged, and, generally it can use for the main part of recording equipment effectively as small recording equipment.

[0005] For this reason, the use which fixes and uses the main part of recording equipment for the pocket of clothes etc. like a small microphone can be considered.

[0006] However, with conventional solid-state record reproduction equipment, there was a problem that it was not arranged at the form to which the built-in microphone and the control switch for performing recording, playback, a halt, etc. which were formed in the main part of recording equipment were suitable for using the main part of recording equipment for the body on the body, attaching it.

[0007]

[Problem to be solved by the invention] Like the above, there was a problem that it was not arranged in the good position of operability suitable for parts, such as a built-in microphone and a control switch, attaching and using the main part of recording equipment for the body conventionally.

[0008] Then, this invention aims at offering the recording equipment which aimed at improvement in operability in the case of using it in view of the above-mentioned problem, attaching the main part of recording equipment to the body.

[0009]

[Means for solving problem] The storage read-out circuit for invention according to claim 1 memorizing the signal inputted as the semiconductor memory as a record medium to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] It is characterized by a cross section's having long form in that side face direction by a rectangle, forming a pen clip in that 1 side, and forming said microphone in the side in which this pen clip was formed, and at least 1 of two sides contiguous to that side.

[0010] The storage read-out circuit for invention according to claim 2 memorizing the signal inputted as the semiconductor memory as a record medium to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] A cross section has long form in the side face direction by a rectangle, and a pen clip is formed in the 1 side. It is characterized by forming said microphone in the side in which this pen clip was formed, and at least 1 of two sides contiguous to that side, and forming said recording switch in the end of the main part of recording equipment of the direction of a root of said pen clip further.

[0011] The storage read-out circuit for invention according to claim 3 memorizing the signal inputted as the semiconductor memory as a record medium to this semiconductor



memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] A cross section has long form in the side face direction by a rectangle, and a pen clip is formed in the 1 side. Said microphone is formed in the side in which this pen clip was formed, and at least 1 of two sides contiguous to that side. Furthermore, it is characterized by forming said control switch in the sides other than the side in which said microphone was formed, and forming said recording switch in the end of the main part of recording equipment of the direction of a root of said pen clip further.

[0012] The storage read-out circuit for invention according to claim 4 memorizing the signal inputted as the semiconductor memory as a record medium to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] It has long pillar form in a side face direction, a pen clip is formed in the side, and it is characterized by being arranged so that the front of a pocket may be turned to, when said microphone accommodates said main part of recording equipment in a pocket and is fixed with a pen clip.

[0013] The storage read-out circuit for invention according to claim 5 memorizing the signal inputted as the semiconductor memory as a record medium to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] It has long pillar

form in a side face direction, a pen clip is formed in the side, and it is characterized by being arranged so that it may come out of a pocket, when said microphone accommodates said main part of recording equipment in a pocket and is fixed with a pen clip.

[0014] The storage read-out circuit for invention according to claim 6 memorizing the signal inputted as the semiconductor memory as a record medium to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] It has long pillar form in a side face direction, and a pen clip is formed in the side, and when said microphone accommodates said main part of recording equipment in a pocket and is fixed with a pen clip, it is characterized by being arranged in the position it turns [ position ] to the front of a pocket in the portion which comes out of a pocket.

[0015] The storage read-out circuit for invention according to claim 7 memorizing the signal inputted as the semiconductor memory as a record medium to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] It is characterized by having long pillar form in a side face direction, forming a pen clip in the side, and forming said recording switch in the end face of the main part of recording equipment of the direction of a root of said pen clip.

[0016] The storage read-out circuit for invention according to claim 8 memorizing the signal inputted as the semiconductor memory as a record medium to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment,

and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] It is characterized by having long pillar form in a side face direction, forming a pen clip in the side, and being prepared so that it may come outside, when said recording switch accommodates said main part of recording equipment in a pocket by the end face of the main part of recording equipment of the direction of a root of said pen clip and is fixed with a pen clip.

[0017] The storage read-out circuit for invention according to claim 9 memorizing the signal inputted as the semiconductor memory as a record medium to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] It has long pillar form in a side face direction, and a pen clip is formed in the side, and when said control switch accommodates said main part of recording equipment in a pocket and is fixed with a pen clip, it is characterized by being arranged in the position it does not turn [ position ] to the front of a pocket.

[0018] The storage read-out circuit for invention according to claim 10 memorizing the signal inputted as the semiconductor memory as a record medium to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] Have long pillar form in a side face direction, and a pen clip is formed in the side. Said recording switch is formed in the end face of the main part of recording equipment of the direction of a root of said pen clip, and when said control switch accommodates said main part of recording equipment in a pocket and is fixed with a pen clip, it is characterized by being arranged in the position it does not turn [ position ] to the front of a pocket.

[0019] The storage read-out circuit for invention according to claim 11 memorizing the signal inputted as the semiconductor memory as a record medium to this semiconductor memory, and reading the memorized signal, The main part of recording equipment having the battery which supplies the operation power for making storage read-out perform to this circuit, The microphone which is built in said main part of recording equipment, changes voice into an electrical signal, and is derived in said storage read-out circuit, The recording switch which is formed in said main part of recording equipment, and performs ON OFF of the storage operation of said storage read-out circuit, In the recording equipment provided, the control switch for being prepared in said main part of recording equipment, and making operation of those other than storage operation perform in said storage read-out circuit [ said main part of recording equipment ] Have long pillar form in a side face direction, and a pen clip is formed in the side. When said main part of recording equipment is accommodated in a pocket and it fixes with a pen clip It is arranged in the position said microphone turns [ position ] to the front of a pocket in the portion which comes out of a pocket, is arranged in the position said control switch does not turn [ position ] to the front of a pocket, and is characterized by forming said recording switch in the end face of the main part of recording equipment of the direction of a root of said pen clip.

[0020] In the recording equipment of any one description of Claim 2, 3, 7, 8 and 10, and the 11th clause, invention according to claim 12 [ said recording switch ] It is characterized by consisting of slide switches which have an operation knob, and being constituted so that the ON of a switch and OFF can be checked in the position of the operation knob.

[0021] In the recording equipment of any one description of Claim 2, 3, 7, 8 and 10, and the 11th clause, invention according to claim 13 [ said recording switch ] It is characterized by consisting of slide switches which have an operation knob, and constituting the operation knob so that it may have the flange from which a color differs on slide direction both sides and the flange can check from the outside alternatively according to the change state of a switch.

[0022] According to this invention according to claim 1 to 11, the main part of recording equipment is easily fixable to a chest pocket etc. with a pen clip. Furthermore, the sound-collecting nature of a built-in microphone can be improved stored in a pocket, and it can do, fixing operation of a recording start and a halt to a pocket further, and, moreover, fear of an operation mistake can be abolished about control switches other than a recording switch.

[0023]

[Mode for carrying out the invention] The form of implementation of invention is explained with reference to Drawings. Drawing 1 is the perspective view showing the recording equipment of the form of 1 operation of this invention. Drawing 1 (a) It is the perspective view seen from the control switch and display side, and is drawing 1 (b). It is the perspective view seen from the microphone side.

[0024] Drawing 1 (a) (b) It sets and the recording switch 13 with which the appearance is equipped with the main part 11 of recording equipment with rectangular parallelepiped shape, the pen clip 12 is formed in one of the side of the, and recording equipment 10 operates the ON OFF of recording in the upper surface at the main part 11 of recording equipment is formed. Since it fixes to a user's chest pocket, the pen clip 12 is formed. Moreover, the slide-type switch is used as a recording switch 13. This is because it may push carelessly and recording may be started in case of a button-type switch.

[0025] Control switches 14 other than recording switch 13 are drawing 1 (a). It is arranged in the 1 side of the main part 11 of recording equipment so that it may be shown. The control switch 14 consists of two or more push button-type switches, and, as for a stop button and c, a is [ a play button and b / a return button and e of a fast forward button and d ] already deletion buttons. Each above-mentioned button a-e which constitutes the control switch 14 is arranged so that the surface (pressing surface) of each button a-e may become lower flat-tapped with a case side than a case side at the concave portion formed in the surface of a main part (henceforth, case side). In addition, the liquid crystal display (following, LCD) 15 is also arranged in the same case side as the control switch 14. Recording, each reproductive mode display, recording, the display of each elapsed time in a reproduction state, the display of the number of times of recording, etc. are made by LCD15.

[0026] The arrangement surface of control switch 14 and LCD15 is drawing 1 (b) in the 1 side (case side) of the opposite side. The built-in microphone 16 is arranged so that it may be shown. When the main part 11 of recording equipment is fixed to a user's chest pocket using the pen clip 12, this built-in microphone 16 is arranged so that it may be suitable ahead of [ which is arranged at the portion which comes out of a chest pocket, and fixes the main part 11 of recording equipment ] the person himself/herself (illustration front direction). The arrangement position of the built-in microphone 16 is arranged so that the lower end section of the built-in microphone 16 may come to the position Y which only the predetermined interval 18 separated from the position X of the root portion 17 of the pen clip 12 to the upper part.

[0027] Drawing 2 shows the front view in the state where the above-mentioned recording equipment 10 was fixed to the pocket 21 of left chest a user's clothes, and drawing 3 is the top view which looked at the important section of drawing 2 from the top.

[0028] As shown in drawing 2, the main part 11 of recording equipment is being fixed to the pocket 21 using the pink lip 12. [ the pink lip 12 ] by fixing the one end (upper edge) to the main part 11 of recording equipment, and considering it as the structure where the other end (lower end) puts the side of a pocket 21 by the free end, and \*\*\*\*\* and this free end Easily, can fix to the chest pocket 21 with the pen clip 12, and the main part 11 of recording equipment in the state of this fixation exposing the built-in microphone 16 up from the upper edge line of the chest pocket 21 -- and a user -- since it is arranged toward the front of the person himself/herself, not only the voice of the person himself/herself but also a participant's in a dialogue voice and visitor sound can be recorded certainly, and sound-collecting nature can be raised.

[0029] moreover, [ the main part 11 of recording equipment / the state where it fixed to the pocket 21 ] Since it is in the upper surface of the main part 11 of recording equipment, it exposes to the exterior of a pocket 21 and it is easy to operate the recording switch 13, the recording switch 13 can be operated [ from ] outside a pocket 21, a recording start and a halt can be operated easily, and improvement in operability can be aimed at.

[0030] furthermore -- the state where the main part 11 of recording equipment was fixed to the pocket 21 -- the arrangement position of the control switch 14 (refer to drawing 1) - - the person himself/herself in a pocket 21 -- it seems that the operation mistake of the control switch 14 is not accidentally pushed and carried out from the front (surface) of a pocket 21 since it becomes a side

[0031] in addition, where the main part 11 of recording equipment is fixed to a pocket 21 by designing the thickness of the main part 11 of recording equipment in thickness equivalent to the usually used notebook as shown in the figure seen from drawing 3 A notebook 22 will be stored by equivalent thickness and efficient storage can be performed in the side to which the main part 11 of recording equipment of the pocket 21 is not being fixed for a user.

[0032] In addition, it consists of forms of operation of drawing 1 - drawing 3 so that the pink lip 12 may be located in left-hand side, seeing it from the front when a pocket is equipped with the main part 11 of recording equipment, but it cannot be overemphasized that it is also possible to constitute so that a pink lip may be located in the right-hand side of the main part 11 of recording equipment. Moreover, it is good also considering the arrangement position of the pink lip 12 as same front side as the built-in microphone 16 of the main part 11 of recording equipment.

[0033] Drawing 4 shows one form of the composition of the above-mentioned recording switch 13, and is (a). A sectional side elevation and (b) It is a top view. As shown in drawing 4, the recording switch 13 consists of a switch main part 31 and an operation knob 32, and the switch main part 31 is switched because the change knob 33 carries out slide movement, and keeps the position mechanical by ON and OFF. The operation knob 32 is being engaged corresponding to the change knob 33. The tip has projected the operation knob 32 from the window part 11b prepared in the case 11a of the main part 11 of recording equipment, and the flange 34 is further formed in the both sides of the slide direction focusing on it. A flange 34 is located between Case 11a and the switch main part 31, it is arranged so that the surface can show from a window part, and it is constituted so that a color which is different from the outside according to a change state can be seen. Thereby, it can be checked easily whether the main part 11 of recording equipment is in sound recording operation.

[0034] Drawing 5 is the exploded perspective view showing one form of the assembly structure of recording equipment. switch cover 111 on drawing 5 and with the pore for manual operation buttons, or the pore for LCD (liquid crystal display) windows in the main part of recording equipment switch cover 111 Front cover 112 which constitutes the case side of the opposite side and is equipped with the sound pilot hole for built-in microphones (it consists of two or more holes prepared in mesh texture) this front cover 112 Battery cover 113 connected and arranged switch cover 111 The button section 114 which engages with the pore for manual operation buttons, and constitutes the pressing surface of a control switch switch cover 111 The window section 115 of the transparent body which engages with the pore for LCD windows switch cover 111 Recording knob 116 which engages with an upper surface portion (illustration right end portion), and constitutes some recording switches logic substrate 117 in which a microcomputer, memory, etc. other than a control switch were carried the power supply and audio board 118 in which the electrode for batteries, A/D and a D/A converter, DSP (digital sound processor), the built-in microphone, the earphone jack, etc. were carried LCD(liquid crystal display) 119 Battery 121 Battery case 120 to store Logic substrate 117 A power supply and audio board 118 LCD(liquid crystal display) 119 Ground sheet 122 which wraps these in so that it may shield It is constituted. furthermore, front cover 112 \*\*\*\* -- the pink lip 123 (it is equivalent to the sign 12 of drawing 1) is attached. In addition, logic substrate 117 A power supply and audio board 118 Switch cover 111 It is screwed to the boss arranged in the back on the screw which is not illustrated.

[0035] Drawing 6 is the block diagram of the electrical circuit of the recording equipment concerning this invention.

[0036] microcomputer 211 which will perform mode-of-operation control and power control if the recording switch 12 is first switched to "ON" at the time of recording a control signal is supplied -- power circuit 212 driving -- battery 213 from -- a power supply is supplied to each circuit and sound recording mode is set up. That is, the

recording switch 12 makes an electric power switch serve a double purpose. Voice is changed into an electrical signal with a microphone 16, and it is amplifier 214. It passes and they are coding and the decoding circuit 215. It is supplied and is changed into a digital signal. Furthermore, a digital sound signal is the digital sound processor 216 for voice data compression / extension. Microcomputer 211 which is compressed and performs memory control It is controlled and is buffer memory 217. It passes and is a flash memory 218. It memorizes. the recording switch 12 is switching to "OFF" -- microcomputer 211 sound recording mode is canceled -- power circuit 212 from -- current supply stops.

[0037] operating the control switch 14 at the time of reproduction -- microcomputer 211 a power supply is supplied at the same time reproduction mode is set up -- microcomputer 211 Flash memory 218 from -- [ data is read and ] digital sound processor 215 for voice data compression / extension being elongated -- coding and decoding circuit 215 since it is decoded -- amplification -- 219 passing -- earphone 220 etc. -- it is heard.

[0038] LCD221 Microcomputer 211 which performs a display control It is controlled and a mode of operation, current time, a recording chapter number, etc. are displayed.

[0039]

[Effect of the Invention] As stated above, according to this invention, the main part of recording equipment is easily fixable to a pocket with a pen clip. Furthermore, since a built-in microphone is outside a pocket, and it can improve the sound-collecting nature of a built-in microphone in the state of the fixation, stored in a pocket since it has been arranged so that the front of the person himself/herself may be turned to and a recording switch is further located in the exterior of a pocket in the state of fixation the person himself/herself whose built-in microphone it can be operated equipping a pocket with a recording start and a halt, and is moreover the opposite side about control switches other than a recording switch within a pocket -- since it is arranged at a side, fear of an operation mistake can be abolished.

[Brief Description of the Drawings]

[Drawing 1] The perspective view showing the recording equipment of the form of 1 operation of this invention.



[Drawing 2] The front view showing the state where the equipment of drawing 1 was fixed in the left chest pocket.

[Drawing 3] The top view of the important section of drawing 1.

[Drawing 4] The figure showing one form of the composition of the recording switch in the equipment of drawing 1.

[Drawing 5] The exploded perspective view showing one form of the assembly structure of recording equipment.

[Drawing 6] The block diagram of the electrical circuit of the recording equipment concerning this invention.

[Explanations of letters or numerals] 10 [ -- Recording switch 14 / -- Control switch 16 / -  
- Built-in microphone ] -- Recording equipment 11 -- Main part 12 of recording  
equipment -- Pink lip 13

Representative: Patent attorney \*\* \*\* \*

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